What is claimed is:

1. A method of improving the performance of a direct feed fuel cell having an anode comprising a CO-tolerant catalyst, a solid polymer electrolyte and a cathode, the fuel cell normally outputting power in a range from a minimum to a maximum output, comprising the steps of:

providing a supply of fuel to the anode for the oxidation of the fuel to produce an oxidation product and electrons at the anode;

providing a supply of oxidant to the cathode for reduction of the oxidant, thereby producing a reduction product; and

reducing the output power of the fuel cell at predetermined time intervals to be less than the normal minimum output.

2. The method of claim 1, wherein the output power of the fuel cell is periodically reduced at predetermined time intervals.

3. The method of claim 2, wherein the predetermined time intervals are from about 0.5 hours to about 4 hours.

4. The method of claim 3, wherein the predetermined time intervals are about 30 minutes.

5. The method of claim 1, wherein the normal maximum output and the normal minimum output is in a ratio of up to 60:1.

6. The method of claim 1, wherein the CO-tolerant catalyst comprises platinum and at least one element capable of adsorbing an oxygen-containing species at substantially lower potentials than a pure platinum catalyst.

7. The method of claim 6, wherein the at least one element is selected from the group consisting of ruthenium, molybdenum, tin, tungsten, rhenium, osmium and iridium.

8. The method of claim 1, wherein reducing the output power of the fuel cell is effected by reducing the output current from the fuel cell at predetermined time intervals.

9. The method of claim 1, wherein the output power is provided to an external circuit, the circuit being switchable between a closed circuit condition in which the flow of electric current is permitted and an open circuit condition in which the flow of electric current is interrupted and wherein reducing the output power of the fuel cell is effected by switching the circuit to the open circuit condition at predetermined time intervals.

10. The method of claim 1, further comprising the step of interrupting the supply of fuel to the anode at predetermined time intervals when the output power of the fuel cell is reduced.

11. The method of claim 1, further comprising the step of interrupting the supply of oxidant to the cathode at predetermined time intervals when the output power of the fuel cell is reduced.

12. The method of claim 1, wherein the cathode comprises platinum as catalyst.

13. The method of claim 1, wherein the fuel comprises methanol.

14. The method of claim 13, wherein the fuel comprises a liquid aqueous methanol solution.

15. The method of claim 9, wherein the circuit is switched to the closed position for a period of greater than about 30 minutes.

16. The method of claim 9 wherein the circuit is switched to the open position for a period of less than about 30 seconds.

17. The method of claim 9, wherein the step of reducing the output power of the fuel cell at predetermined time intervals comprises the steps of:

operating the cell to provide electric current in the circuit for an operating period of about 0.5 to 4 hours;

opening the circuit to terminate the flow of electric current for a rest period of about 1 second to 30 minutes; and

ramping the current to increase from zero to a working value for a ramping period of up to 5 minutes.

18. The method of claim 17, wherein the operating period has a duration of greater than about 30 minutes.

19. The method of claim 17, wherein the rest period has a duration of less than about 30 seconds.

20. The method of claim 17, wherein the ramping period has a duration of less than about 2 minutes.

21. The method of claim 17, wherein the ramping period has a duration of greater than about 10 seconds.

22. A direct feed solid polymer electrolyte fuel cell comprising:

an anode having a CO-tolerant catalyst and a cathode;

a fuel supply line for directing fuel to the anode for the oxidation of the fuel to produce an oxidation product and electrons at the anode;

an oxidant supply line for directing oxidant to the cathode for reduction of the oxidant to produce a reduction product;

an external electric circuit connectable to receive power from the fuel cell; and

a current controller for periodically reducing the flow of electric current in the external circuit.

23. The fuel cell of claim 22, wherein the current controller comprises a switch in the external circuit for periodically switching the circuit to an open circuit condition in which the flow of electric current in the circuit is interrupted.

24. The fuel cell of claim 22, wherein the current controller comprises a variable resistor in the external circuit for periodically varying the flow of electric current in the external circuit.

25. The fuel cell of claim 22, further comprising an electric charge storage device connected in parallel with the fuel cell in the external circuit.

26. The fuel cell of claim 22, wherein the CO-tolerant catalyst comprises platinum and at least one element capable of adsorbing an oxygen-containing species.

27. The fuel cell of claim 26, wherein the at least one element is selected from the group consisting of ruthenium, molybdenum, tin, tungsten and rhenium.

28. The fuel cell of claim 27, wherein the CO-tolerant catalyst comprises a platinum-ruthenium alloy.

29. A fuel cell assembly comprising:

a plurality of direct feed fuel cell stacks connected together in series for providing electric power to a load, each fuel cell in the stacks comprising an anode having a CO-tolerant catalyst, a solid polymer electrolyte and a cathode; and

a switching assembly for selectively disconnecting one or more of the fuel cell stacks from the load while the remainder of

the fuel cell stacks remain connected to the load.

30. The fuel cell assembly of claim 29, further comprising a charge storage device connected in parallel with the series-connected fuel cell stacks.